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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/772,443	02/06/2004	Takeshi Morikawa	018656-681	5146

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EXAMINER

RILEY, MARCUS T

ART UNIT	PAPER NUMBER
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2625

NOTIFICATION DATE	DELIVERY MODE
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08/18/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/772,443	Applicant(s) MORIKAWA ET AL.	
	Examiner MARCUS T. RILEY	Art Unit 2625	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>02/06/2004; 04/04/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on June 18, 2010 has been entered.

Response to Amendment

2. This office action is responsive to applicant's remarks received on June 18, 2010. Claims 1-19 remain pending.

Response to Arguments

3. Applicant's arguments with respect to claims **1-8, 10-15 & 17-19** and newly added **claims 20 -22** have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. **Claims 1-8, 10-15 & 17-22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida et al. (US 6,130,757 hereinafter, Yoshida '757) in combination with Watanabe (US 6,741,367 B1 hereinafter, Watanabe '367) as applied to claim 1, and further in view of Nakamura et al. (US2003/0103777 hereinafter, Nakamura '777).

Regarding claim 1; Yoshida '757 discloses a data processing apparatus comprising (Fig. 2, Copying Machine 1):

one or more compression/decompression units (Fig. 4, Compressing Unit 311 and Decompressing Unit 312) that compress the data for an input job and decompress the compressed data (i.e. Image data is compressed by compressing unit 311 and is stored into code memory 306 as compressed image data and the image data is read from code memory 306, decompressed by decompressing unit 312, and written into image memory 304 as decompressed image data. Column 8, lines 1-34).

Yoshida '757 does not expressly disclose a controller wherein when a processing request is issued for processing of the data for a next job by said compression/decompression units during processing of the data for a current job by said compression/decompression units and controlling the execution of processing of data for said next job by said compression/decompression units in accordance with this determination.

Watanabe '367 discloses a controller (Fig. 1, Controller 2), wherein when a processing request is issued (Fig. 10, Execution Task i.e. Controller 2) for processing of the data for a next job by said compression/decompression units (Fig. 1 Compressor/ Decompressor 32) during processing of the data for a current job by said compression/decompression units (Fig. 10 i.e. The execution task begins the processing of

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the next and current job of the compressor/decompressor 32. Column 11, lines 57-64 and Column 1, line 56 thru Column 2, line 19);

e) controlling the execution of processing of data for said next job by said compression/decompression units in accordance with this determination (i.e. The processor may discriminate whether a present period is a period for transferring the image data or the compressed image data and may control the compressor/decompressor to decompress the original data in the buffer when the processor discriminates that the present period is not the period for transferring the image data or the compressed image data to the image forming mechanism. Column 2, lines 43-56 and column 1, lines 23-26).

Yoshida '757 and Watanabe '367 are combinable because they are from the same field of endeavor of image forming apparatuses (Watanabe '367 at "*Field of Invention*").

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the data processing apparatus as taught by Yoshida '757 by adding a controller and compression/decompression units as taught by Watanabe '367. The motivation for doing so would have been to reduce process time for printing with efficient data compression/decompression in an image forming apparatus. Therefore, it would have been obvious to combine Yoshida '757 with Watanabe '367 to obtain the invention as specified in claim 1.

Yoshida '757 as modified does not expressly disclose wherein said controller performs processing comprising; a) obtaining the processing wait period between pages of said current job b) obtaining the minimum processing time for said next job data; c) comparing the processing wait period between pages of said current job with the minimum processing time for said next job data; d) determining whether or not said processing wait period is longer than said minimum processing time, based on a comparison between the minimum processing time for said next-job data and said processing wait period.

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Nakamura '777 discloses wherein said controller (Fig. 3, Controller 21) performs processing comprising (Fig. 3, Controller 21 i.e. The controller 21 performs job data storage processing for emulating the print jobs received from the network board 20, developing them to bitmap data, and storing the developed bitmap data and print processing for transferring the job data to request printing. Page 4, Paragraph 0058);

a) obtaining the processing wait period between pages of said current job (Figs. 9a - 9e i.e. As revealed by the comparison of waiting times A-W and B-W for job A and job B illustrated in Fig. 9d and Fig. 9e, respectively, the overall print waiting time in (sum of waiting time for job A and waiting time for job B) in Fig. 9e. Page 5-6, Paragraphs 0105-0106);

b) obtaining the minimum processing time for said next job data (Figs. 9a - 9e i.e. As revealed by the comparison of waiting times A-W and B-W for job A and job B illustrated in Fig. 9d and Fig. 9e, respectively, the overall print waiting time in (sum of waiting time for job A and waiting time for job B) in Fig. 9e. Page 5-6, Paragraphs 0105-0106);

c) comparing the processing wait period between pages of said current job with the minimum processing time for said next job data (Figs. 9a & 9e i.e. As revealed by the comparison of waiting times A-W and B-W for job A and job B illustrated in FIG. 9D and FIG. 9E, respectively, the overall print waiting time in (sum of waiting time for job A and waiting time for job B) in FIG. 9E is shorter than the overall print waiting time (sum of waiting time for job A and waiting time for job B) in FIG. 9D, by the time period indicated by the shaded portion of FIG. 9D. Page 5-6, Paragraphs 0105-0106);

d) determining whether or not said processing wait period is longer than said minimum processing time, based on a comparison between the minimum processing time for said next-job data and said processing wait period (Figs. 9a & 9e i.e. As revealed by the comparison of waiting times A-W and B-W for job A and job B illustrated in FIG. 9D and FIG. 9E, respectively, the overall print waiting time in (sum of waiting time for job A and waiting time for job B) in FIG. 9E is shorter than the overall print waiting time (sum of waiting time for job A and waiting time for job B) in FIG. 9D, by the time period indicated by the shaded portion of FIG. 9D. Page 5-6, Paragraphs 0105-0106);

Yoshida '757 and Nakamura '777 are combinable because they are from the same field of endeavor of image forming apparatuses (Nakamura '777 at "*Field of Invention*").

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the data processing apparatus as taught by Yoshida '757 by adding a controller as taught by Nakamura '777. The motivation for doing so would have been advantageous to reduce process time for printing. Therefore, it would have been obvious to combine Yoshida '757 with Nakamura '777 to obtain the invention as specified in claim 1.

Regarding claim 2; Yoshida '757 as modified does not expressly disclose wherein said controller permits said compression/ decompression unit(s) to process said next job between pages of said current job.

Watanabe '367 discloses wherein said controller permits said compression/ decompression unit(s) to process said next job between pages of said current job (i.e. The processor may discriminate whether a present period is a period for transferring the image data or the compressed image data and may control the compressor/decompressor to decompress the original data in the buffer when the processor discriminates that the present period is not the period for transferring the image data or the compressed image data to the image forming mechanism. Column 2, lines 43-56 and column 1, lines 23-26).

Yoshida '757 and Watanabe '367 are combinable because they are from the same field of endeavor of image forming apparatuses (Watanabe '367 at "*Field of Invention*").

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the data processing apparatus as taught by Yoshida '757 by adding a controller and compression/decompression units as taught by Watanabe '367. The motivation for doing so would have been to reduce process time for printing with efficient data compression/

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decompression in an image forming apparatus. Therefore, it would have been obvious to combine Yoshida '757 with Watanabe '367 to obtain the invention as specified in claim 1.

Yoshida '757 as modified does not expressly disclose where the processing wait period is longer than said minimum processing time.

Nakamura '777 discloses where the processing wait period is longer than said minimum processing time (Figs. 9a & 9e i.e. As revealed by the comparison of waiting times A-W and B-W for job A and job B illustrated in FIG. 9D and FIG. 9E, respectively, the overall print waiting time in (sum of waiting time for job A and waiting time for job B) in FIG. 9E is shorter than the overall print waiting time (sum of waiting time for job A and waiting time for job B) in FIG. 9D, by the time period indicated by the shaded portion of FIG. 9D. Page 5-6, Paragraphs 0105-0106).

Yoshida '757 and Nakamura '777 are combinable because they are from the same field of endeavor of image forming apparatuses (Nakamura '777 at "*Field of Invention*").

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the data processing apparatus as taught by Yoshida '757 by adding a controller as taught by Nakamura '777. The motivation for doing so would have been advantageous to reduce process time for printing. Therefore, it would have been obvious to combine Yoshida '757 with Nakamura '777 to obtain the invention as specified in claim 1.

Regarding claim 3; Yoshida '757 discloses where the said job includes a copy job in which image data for an original document ready by an original document reader is printed out or a print job in which image data received from an external terminal is printed out (i.e. Each of copying machines 1, 4, and 6 includes such functions as image reading, image processing with which read images are edited, and printing. Column 4, lines 25-26).

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Regarding claim 5; Yoshida '757 discloses where the said next-job attribute consists of whether the data processing for the next job is to take place on a page unit, band unit or block unit basis (Fig. 24, Step S53-S59 i.e. CPU 103 executes the jobs based on the priorities. The print jobs are executed page by page based on the priorities and the registered times. Column 17, lines 14-43 and Column 11, lines 29-33).

Regarding claim 6; Yoshida '757 discloses where the said next-job attribute consists of the type of the next job (i.e. The job IDs are job identification numbers for the transmissions. The priorities indicate the priorities of the jobs for transmissions. Column 11, lines 38-43).

Regarding claim 7; Yoshida '757 discloses where said next-job attribute consists of the input source for the next job (Fig. 4 Input/Output Controlling Unit 50 i.e. CPU 103 instructs external input/output controlling unit 50 to output the image data to send the image data to another apparatus for a requested job. Column 7, lines 23-34).

Regarding claim 8; Yoshida '757 discloses where said next-job attribute consists of whether the data is binary data or multi-value data (Fig. 4 Multi-Valuing Unit 308 i.e. The Multi-Valuing Unit determines that the data is multi-value data. Column 8, lines 33-37).

Regarding claim 4 & 11; Claims 4 & 11 contains substantially the same subject matter as claim 1. Therefore, claim 4 & 11 are rejected on the same grounds as claim 1.

Regarding claims 10 & 19; Claim 10 & 19 contains substantially the same subject matter as claim 3. Therefore, claims 10 & 19 are rejected on the same grounds as claim 3.

Regarding claim 12; Claim 12 contains substantially the same subject matter as claim 5. Therefore, claim 12 is rejected on the same grounds as claim 5.

Regarding claim 13; Claim 13 contains substantially the same subject matter as claim 6. Therefore, claim 13 is rejected on the same grounds as claim 6.

Regarding claim 14; Claim 14 contains substantially the same subject matter as claim 7. Therefore, claim 14 is rejected on the same grounds as claim 7.

Regarding claim 15; Claim 15 contains substantially the same subject matter as claim 8. Therefore, claim 15 is rejected on the same grounds as claim 8.

Regarding claim 17; Claim 17 contains substantially the same subject matter as claim 2. Therefore, claim 17 is rejected on the same grounds as claim 2.

Regarding claim 18; Watanabe '367 discloses where said controller compares said next-job data minimum processing time and said processing wait period after the next-job attribute is identified (Fig. 11 Steps S401-S409 i.e. At Step S405, the CPU 6 compares a lapsed time period since the conveyance stated with a predetermined time difference (T1-T2). Column 12, line 32 thru Column 13, line 8).

Regarding claims 20-22; Claims 21 & 22 contains substantially the same subject matter as claim 20. Therefore, claims 21 & 22 are rejected on the same grounds as claim 20. However, the controller of Watanabe '367 discloses Steps A-D and the controller of Yoshida '757 discloses Step E when at least one of said compression/decompression unit(s) is not busy.

6. **Claims 9 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshida '757 in combination with Watanabe '367 as applied to claim 1 above, and further in view of Nishikawa '046 et al. (US 6,934,046 hereinafter, Nishikawa '046).

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Regarding claim 9; the combination of Yoshida '757 does not expressly disclose where said next-job attribute consists of whether the data is monochrome data or color data.

Nishikawa '046 discloses where said next-job attribute consists of whether the data is monochrome data or color data (Fig. 12 Step 1202 i.e. Field 1202 denotes physical page setting information in which the setting of layout or color/monochrome is stored when the layout or the color/monochrome can be designated for each physical page. Column 19, lines 16-33).

Yoshida '757 and Nishikawa '046 are combinable because they are from the same field of endeavor of a data processing apparatus (Nishikawa '046 at "*Field of Invention*").

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to modify the data processing apparatus as taught by Yoshida '757 by adding a next-job attribute consisting of whether the data is monochrome data or color data as taught by Nishikawa '046. The motivation for doing so would have been to provide color variations to the layout of a page and to provide a plurality of page layouts for each physical page. Therefore, it would have been obvious to combine Yoshida '757 with Nishikawa '046 to obtain the invention as specified in claim 4.

Regarding claim 16; Claim 16 contains substantially the same subject matter as claim 9. Therefore, claim 16 is rejected on the same grounds as claim 9.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARCUS T. RILEY whose telephone number is (571)270-1581. The examiner can normally be reached on Monday - Friday, 7:30-5:00, est.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on 571-272-7437. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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